

Space Weather Forecast

Issued on Friday, 25 February 2022 at 01:18 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales <https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales>

Space Weather Forecast Headline: No significant activity expected.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity has been very low, with two sunspot regions on the visible disc, both of these are mature and only slowly evolving regions. No significant flares have been observed and no Earth-directed CMEs (coronal mass ejections) were observed in the available imagery during the past 24 hours.

Solar Wind / Geomagnetic Activity: The solar wind has gradually declined through the last 24 hours due to the waning influence of a fast solar wind. Total magnetic field strength was weak, with the important north-south component also varying weakly. Resultant geomagnetic activity was Quiet (Kp 0-2).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is currently at background levels with no solar radiation storms expected.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is forecast to be mainly very low, occasionally low, with a very slight risk of moderate-class flares.

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs. Three coronal hole high speed stream connections are expected through the next three days, with winds likely to be at slightly elevated or elevated levels. Geomagnetic activity is expected to be generally Quiet with Unsettled spells. There is a chance of Active and a very slight chance G1/Minor Storms, mainly on days 2 and 3 (26 and 27 February).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is expected to remain at background, with no solar radiation storms expected through the period.

Geomagnetic Storms:

Geo-Magnetic Storm	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC)	Day 2 (00-24 UTC)	Day 3 (00-24 UTC)	Day 4 (00-24 UTC)
Probability (Exceedance)			(%)	(%)	(%)	(%)
Minor or Moderate	G1 to G2	No	5	10	10	5
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC)	Day 2 (00-24 UTC)	Day 3 (00-24 UTC)	Day 4 (00-24 UTC)
Probability			(%)	(%)	(%)	(%)
Active	R1-R2 M Class	No	5	5	5	5
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms	Level (cm ⁻² sr ⁻¹ s ⁻¹)	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC)	Day 2 (00-24 UTC)	Day 3 (00-24 UTC)	Day 4 (00-24 UTC)
Probability (Exceedance)			(%)	(%)	(%)	(%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = cm⁻²sr⁻¹s⁻¹)